

# BEADS: Journal of the Society of Bead Researchers

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Volume 28

Article 8


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2016

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### Repository Citation

Karklins, Karlis (2016). "Frit-Core Beads in North America." *BEADS: Journal of the Society of Bead Researchers* 28: 60-65. Available at: <https://surface.syr.edu/beads/vol28/iss1/8>

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# FRIT-CORE BEADS IN NORTH AMERICA

**Karlis Karklins**

*Among the earliest European beads to reach North America is a distinctive group generally referred to in the archaeological literature as frit-core or frit-cored, so called because their interiors consist of sintered sand rather than solid glass. Likely produced in France, they are restricted to northeastern North America and have short temporal ranges, making them ideal chronological indicators for the latter part of the 16th century and the very early 17th century.*

## INTRODUCTION

Frit-core beads differ from those of glass in that while the exterior is vitreous, the core is composed of sintered quartz sand or crushed quartz. In this respect, they are reminiscent of ancient faience beads but were made using different technology. To date, frit-core beads have been recovered from 17 archaeological sites in eastern Canada and the northeastern United States (Figure 1; Table 1).

## PHYSICAL ATTRIBUTES

The beads are almost exclusively oval in shape though there are a few round specimens. The Kenyons (1983:60) also mention a “melon or ridged” form found at the Carton site in southern Ontario, but this has yet to be verified. The uniform shape of most specimens suggests that they were formed in molds.

Six stylistic forms have been recorded (Figure 2). The type numbers are those assigned by Fitzgerald (1990:174) except for Type 6 which is a new form based on information provided by Wayne Lenig (2016: pers. comm.).

**Type 1.** A loop with 6 dots around a single dot in its center is situated on opposite sides of the bead. The space between the two loops contains a longitudinal row of 4-5 dots on either side.

**Type 2.** This exhibits 4 or 6 longitudinal stripes between each pair of which is a row of 3-5 dots.

**Type 3.** No decoration.

**Type 4.** A configuration of 6 “petals” encircles each end of the perforation and there is a line around the middle.

**Type 5.** There are three or more longitudinal stripes, between each pair of which is a configuration of 5-6 dots around a single dot with a short stripe at either opening of the perforation.

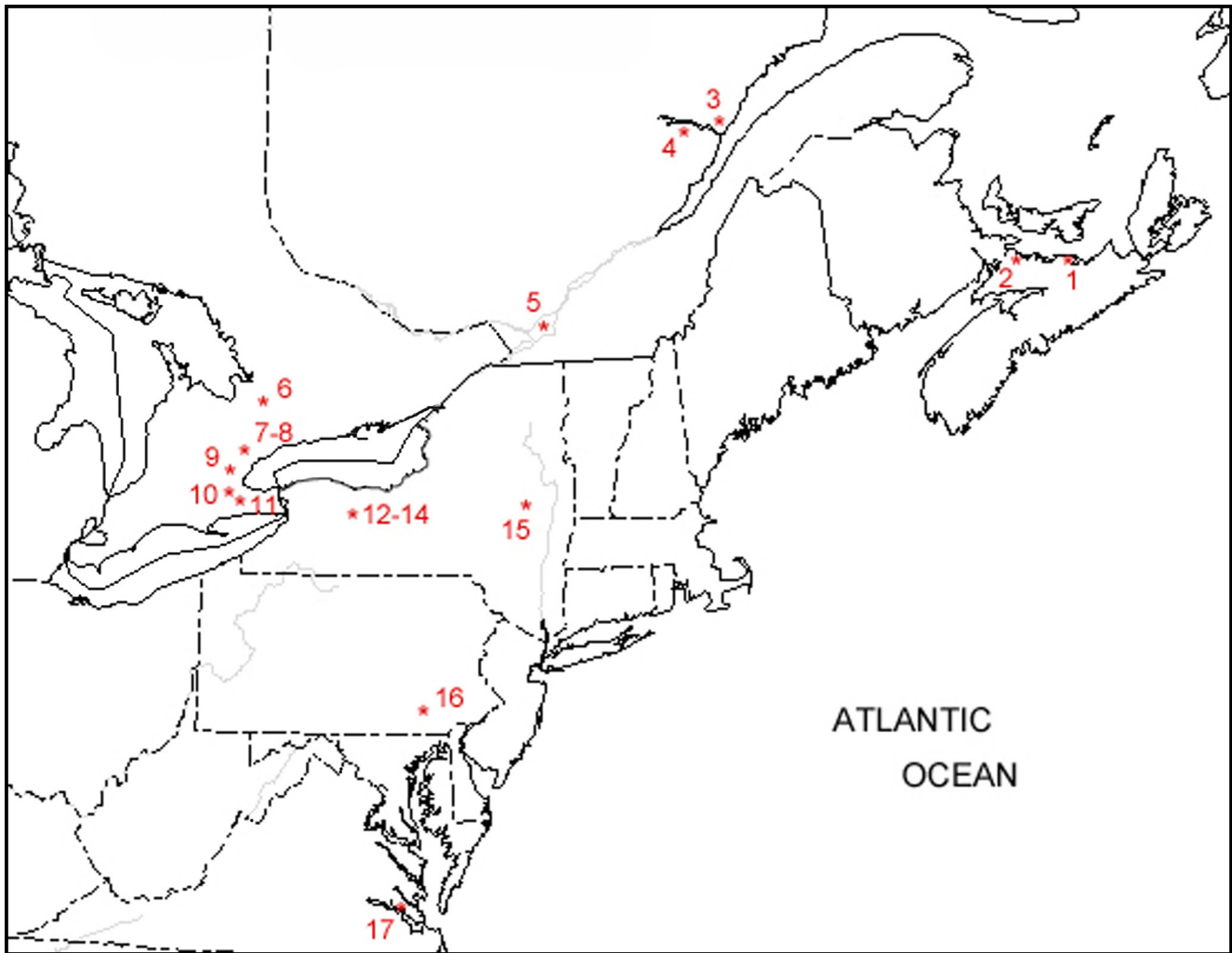
**Type 6.** An undulating line encircles the middle. In each of the five undulations is a dot encircled by five dots.

The beads are generally a dark navy blue color and may exhibit white, raised decorative elements. There are, however, scarce variants where the body and raised decoration are dark blue with the low areas covered with off-white glaze. These latter are identified by the letter A appended to the type number (e.g., Type 4A).

Regarding size, the Type 3 beads from the Hopps and Northport sites in Nova Scotia are 6-7 mm in diameter and 8-11 mm in length. The Type 1 bead from the former site is 10 mm in diameter and 11 mm long (Whitehead 1993:103, 110). The Type 1, 2, and 5 beads from the Adams site are, on average, 13 mm long and 9 mm in diameter (Wray 1973:7-1). The average length of the Type 2 beads from the Funk site is 15 mm (Smith and Graybill 1977:57). The atypical Type 5A bead from Pointe à Callière is 7.8 mm in diameter and 11.4 mm long (Delmas 2016:100), while the Type 4A Jamestown specimen is 9.8 mm in diameter and 11.9 mm in length (Merry Outlaw 2016: pers. comm.). Thus, the beads range 6-10 mm in diameter and 8-15 mm in length.

## DISTRIBUTION

The spatial range of the frit-core beads is restricted to a relatively small area in northeastern North America. It extends from Nova Scotia at the southern extent of the Gulf of St. Lawrence west along the St. Lawrence waterway to southern Ontario and western New York state. An isolated find site is in southeastern Pennsylvania with another at Jamestown, Virginia (Lapham 2001: Section 2.3). The latter is the southernmost find to date.



**Figure 1.** The distribution of frit-core beads in northeastern North America (see Table 1 for site identities) (drawing: Karlis Karklins).

The largest concentration of frit-core beads was uncovered at the Hopps site ( $n = 107$ ) in Nova Scotia with a secondary concentration at the not-too-distant Northport site ( $n = 54+$ ). This is a minimal count as additional beads remain encased in several lumps of organic material, mostly moose hide with the hair attached. All but one of the beads are Type 3. The exception is Type 1. Some of the beads formed part of a necklace strand at the Northport site while three beads were found strung on vegetal-fiber cordage at the Hopps site suggesting they too likely were strung in a necklace (Whitehead 1993:44). The Nova Scotia sites are the only ones that yielded Type 3 beads, possibly because these beads may have been identified as glass in other early bead assemblages.

The next highest concentration ( $n = 22$ ) was found at the Adams site in western New York with an additional two beads recovered from the nearby and contemporaneous

Culbertson site (Wray et al. 1987:115, 211). Here Types 1, 2, and 5 were found together (Figure 3).

The Funk Site in Lancaster Co., Pennsylvania, has a minor concentration ( $n = 11$ ) of Type 2 beads (Smith and Graybill 1977:57). The remaining eleven sites – in southern Quebec, southern Ontario, western and eastern New York, and eastern Virginia – each produced only 1-2 specimens.

Type 1 beads have the widest distribution, being found in Nova Scotia, Quebec, Ontario, and New York. Type 2 is restricted to western New York and southeastern Pennsylvania, Type 3 to Nova Scotia, and Type 4 to southern Ontario (Figure 4). Type 4A has only been found in eastern Virginia (Figure 5). Type 5 is present at sites in both southern Ontario and western New York, while Type 5A has only been encountered at Pointe-à-Callière, Quebec (Figure 6). Type 6 is restricted to eastern New York.

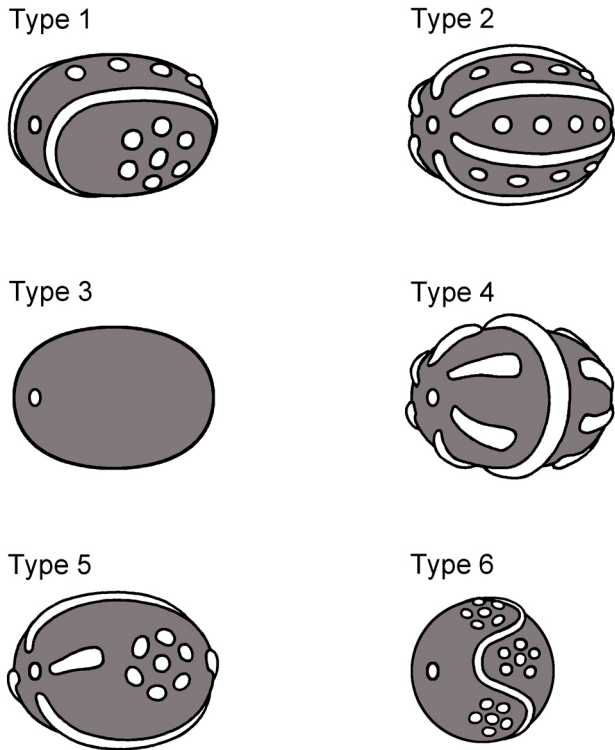
**Table 1. Distribution of Frit-Core Beads in North America.**

Map No.	Site	Location	Bead Type (Quantity)	Date	Cultural Affiliation
1	Hopps Site (Whitehead 1993:66, 110-111)	Pictou, Nova Scotia	Type 1 (1) Type 3 (106)	1580-1600	Mi'kmaq
2	Northport (Whitehead 1993:103)	Northport, Nova Scotia	Type 3 (54+)	1580-1600	Mi'kmaq
3	Tadoussac (Delmas 2016:102)	Tadoussac, Quebec	Type 1 (1)	1580-1600 (?)	St. Lawrence Iroquoians
4	Chicoutimi (Moreau et al. 2016:190)	Chicoutimi, Quebec	Type ? (1)	1580-1600 (?)	St. Lawrence Iroquoians
5	Pointe à Callière (Delmas 2016:100)	Montreal, Quebec	Type 5A (1)	1580-1600 (?)	St. Lawrence Iroquoians
6	Ball Site (Fitzgerald 1990:171)	Warminster, Ontario	Type 1 (2)	1590-1620	Huron-Wendat
7	Skandatut Village Site (Williamson 2012:5)	Vaughan, Ontario	Type ? (1)	1580-1600	Huron-Wendat, Petun
8	Kleinburg Ossuary (Fitzgerald 1990:171)	Vaughan, Ontario	Type 4 (2)	1580-1600	Huron-Wendat, Petun
9	Carton Ossuary (Fitzgerald 1990:171)	Milton, Ontario	Type 4 (2) Type 5 (2)	1580-1600	Neutral
10	Tregunno Cemetery (Fitzgerald 1990:171)	Carlisle, Ontario	Type 1 (?)	1580-1600	Neutral
11	Snider Cemetery (Fitzgerald 1990:171)	Duffs Corner, Ontario	Type 1 (?)	1580-1600	Neutral
12	Culbertson Site (Sempowski and Saunders 2001:6; Wray et al. 1987:211)	Livonia, New York	Type 2 (2)	1570-1585	Seneca
13	Adams Site (Sempowski and Saunders 2001:6; Wray et al. 1987:115)	Livonia, New York	Type 1 (9) Type 2 (3) Type 5 (9) Type ? (1)	1575-1590	Seneca
14	Factory Hollow (Sempowski and Saunders 2001:198, 831)	Livonia, New York	Type 2 (2)	1610-1625	Seneca
15	Barker Site (Bradley 2007:196, n. 25)	Fonda, New York	Type 6 (1)	1600-1614	Mohawk
16	Funk Site (Smith and Graybill 1977:57)	Lancaster Co., Pennsylvania	Type 2 (11)	1550-1600	Susquehannock
17	Jamestown (Lapham 2001)	Jamestown, Virginia	Type 4A (1)	1608-1610	Powhatan

**TEMPORAL PLACEMENT**

Frit-core beads are the “most characteristic bead type” of Glass Bead Period I (GBP I) in southern Ontario (Kenyon

and Kenyon 1983:60). Based on data recovered from the Carton and Kleinburg ossuaries, the date assigned to this period is 1580-1600. The beads from the two Mi'kmaq sites in Nova Scotia are also assigned to this period (Whitehead



**Figure 2.** Frit-core bead stylistic forms (drawing: Dorothea Larsen).



**Figure 3.** Frit-core beads from the Adams site, New York, showing Types 1, 2, and 5 (on loan to the Rochester Museum and Science Center; courtesy of the Rock Foundation).



**Figure 4.** Type 1 with associated beads from Tadoussac, Quebec (courtesy of McCord Museum, Montreal; cat. no. M2185A [detail]).

1993:70), though Loewen (2016:276, 284) feels that frit-core beads could have been introduced into the general region (Acadia and Tadoussac) from France as early as 1559. Thus, the beads from the three Quebec sites might also have arrived this early.

The Culbertson and Adams sites are assigned to the period 1570-1590, based on a revised chronology for Seneca sites in western New York (Sempowski and Saunders 2001:6). They were previously attributed to the 1560-1575 period (Wray et al. 1987:115, 211). The nearby Factory Hollow site is dated to 1610-1625 (Sempowski and Saunders 2001:5), while the Barker site in eastern New York was occupied from about 1600 to 1614 (Bradley 2007:43). The date for the Funk Site in southeastern Pennsylvania is 1550-1600 (Smith and Graybill 1977:57).



**Figure 5.** Type 4 from the Kleinburg ossuary (photo: John Howarth; courtesy of Archaeological Services Inc., Toronto).



**Figure 6.** Type 4A from Jamestown, Virginia (photo: Bly Straube; collection of the Jamestown Rediscovery Foundation).

The Jamestown specimen is the only one found in a tightly dated context. It was recovered from the well John Smith ordered the colonists to dig in 1608, which was filled in upon the arrival of Lord De La Warr in 1610 (Merry Outlaw 2016: pers. comm.). This find confirms that frit-core beads spill over into the first decade of the 17th century. Thus, while the 1580-1600 date range is viable for frit-core beads in southern Ontario, it seems to be a bit restrictive for some of those found elsewhere. A more accurate date range for beads recovered from sites outside southern Ontario might be 1560-1610 or even later.



**Figure 7.** Type 5A bead from Pointe-à-Callière, Montreal, Quebec (photo: Alain Vandal; courtesy of Musée Pointe-à-Callière).

## SOURCING

We now turn to the probable source of these distinctive beads. The likelihood is that they were produced in France which had a thriving beadmaking industry during the 16th century that operated in Paris and several other cities. The beadmakers worked with glass and enamel, as well as several other materials. Turgeon (2001:67) ascribes the frit-core beads to “the enamel category since they were fired and had an enamel type glaze” and equates them to the *olives à cottes mouchetées aussi d’email* (olives with speckled coats also of enamel) that appear in the post-mortem inventories of Parisian beadmakers.

Support for a French origin for the frit-core beads is in the form of two specimens recovered from archaeological contexts attributed to the 1590-1605 period at the Jardins du Carrousel in Paris (Turgeon 2001:63). One is a Type 1 bead that is 11.7 mm long and 9.9 mm in diameter which is near identical to the one measured Type 1 bead from Nova Scotia. The other is round with a whitish body and has lost its glaze. It measures 7.3 mm in length and 7.0 mm in diameter (Turgeon 2001:61). A whitish ovoid example also missing its glaze was uncovered at Chicoutimi, Quebec. It is larger, measuring 11 mm in length and 9 mm in diameter (Moreau 2016:191). Certainly, the presence of two frit-core beads in Paris does not necessarily mean they were made there, but in the absence of other alternatives, the indication is that they are domestic products.

That various combinations of Types 1-5 were found at the Adams, Carton, and Hopps sites suggests they were all made in the same production center, quite possibly in related workshops. Chemical analysis of a sample of the beads from North America and the Paris specimen might corroborate this. It would also provide information about the composition of the beads.

## CONCLUSION

Aside from the Type 1 specimen excavated in Paris, no other correlatives of the frit-core beads found in North America have so far been encountered elsewhere in the world. Could it be that these beads were only produced for trade to North America? Does their relative scarcity imply that they were considered special by the aboriginal population and only certain status individuals could wear them? Or does it mean that they were of less interest than the more colorful glass beads that they have been found with? Unfortunately, questions like these are very difficult to answer on just the basis of archaeological remains.

## ACKNOWLEDGEMENTS

My thanks to the following individuals: Wayne Lenig for providing information about the Type 6 bead from the Barker site; Merry Outlaw of Preservation Virginia, Williamsburg, for specifics regarding the Jamestown specimen, and Bly Straube for supplying an image of it; Martin Cooper, Archaeological Services Inc., Toronto, for the image of the Kleinburg specimen; Brad Lowen, Université de Montréal, for assistance in obtaining images of the bead from Pointe à Callière; and definitely to Dorothea Larsen who prepared the excellent drawing of the various bead types.

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